



University of Pennsylvania School of Medicine
Hospital of the University of Pennsylvania

Barbara L. Weber, M.D.
Professor of Medicine and Genetics
Director, Breast Cancer Program

Department of Medicine
Hematology/Oncology Division

May 10, 2001

Kirk L. Wolgemuth
Stevens & Lee
111 North Sixth Street
P.O. Box 679
Reading, PA, 19603-0679

Re: Diveglia vs. Northwestern Mutual Insurance Company

Dear Mr. Wolgemuth:

We received the case records you sent in the matter of Diveglia vs Northwestern Mutual Insurance Company. Specifically, we have reviewed the medical records of the care of Ms. Diveglia from 4/8/97 until 3/27/00, during which time she was diagnosed with Stage II invasive breast carcinoma, and was treated with surgery and then chemotherapy. We are writing to convey to you our professional opinion with regard to the following questions: 1) Is there any evidence from the medical record that Ms. Diveglia has any medical indication why she should not return to work as a trial attorney due to the possibility that the stress would make her more likely to suffer a recurrence? 2) Is there is an established standard of care with regard to this issue? and 3) Is there any medical research that sheds light on this question that is reputable and widely accepted by the medical oncology profession?

First, we do not see any indication from the record that would support Ms Diveglia's concerns that the stress associated with returning to work as a trial lawyer place her at a higher risk of recurrence. Ms Diveglia has been treated appropriately by her physicians at Memorial Sloan Kettering, and suffered the expected side effects of the chemotherapy, namely, some fatigue, nausea, and alopecia (thinning hair). These consequences were all relatively short lived, and it appears that she recovered from them well. We see nothing in the medical record that leads me to believe that she cannot return to all her previous activities.

Second, there is no standard of care in the treatment of Stage II breast cancer that dictates that otherwise healthy patients should alter their pre-diagnosis activities in order to reduce recurrence rates. It has been our experience that, if they chose to do so, patients are uniformly able to return to all previous activities, and we have no reasons to advise them against it. The

only exception may be heavy lifting or other activities that may aggravate arm swelling after axillary lymph node dissection. This is not at issue in this case.

Third, there is no evidence in the medical literature that supports the position that stress leads to an increased risk of recurrence. One early case-control, retrospective study linked significant life stresses (such as the loss of a loved one, or the diagnosis of cancer) to a relative risk of recurrence of 4-6 times that of controls (Ramirez et. al., 1989). However, this is a limited study with respect to size (only 100 woman), and the fact that it was retrospective in nature. Despite these limitations, the data support only an association of an increased risk of recurrence with a severe life stressor, such as the death of a spouse and had very wide confidence intervals, evidence of the limited weight that can be placed on these findings. It also showed that lesser stressors, such as "the husband that drinks 3-4 pints of beer a night and spends most of the family money on alcohol", had no association with increased risk of recurrence. We are assuming that this is more stressful than work as a trial lawyer. Similar results were found in a study by Chen et. al (1995). However, this type of study was repeated most recently with over 300 participants and the results refute the findings of both earlier, smaller trials (Protheroe et. al., 1999).

Several problems with the methods of the earlier case-control studies have been described (McGhee et. al, 1999) and include factors inherent to the study designs, and the vagueness of the hypothesis being tested. Subsequent studies designed to verify the results of the earlier one attempted to improve the methodology using a prospective trial design. One prospective study followed 204 woman over 42 months and directly addressed the question whether a stressful life-style lead to an increase risk of recurrence (Barraclough et. al., 1992) with negative results. Last, a recent meta-analysis, which is a type of study which attempts to combine the data of several smaller trials in order to include as many individuals as possible in order to potentially uncover relationships not revealed in the smaller studies, failed to support the hypothesis that stress causes cancer (Petticrew et. al, 1999). Based on these results, the authors concluded that there was "no support for the theory that psychosocial stress contributes to the relapse of breast cancer". Two reviews of the literature summarize the limitations of the body of evidence that exists conclude that there is no good evidence for any relation between stressful life events and cancer (McGhee et. al, 1995, Petticrew et. al, 1999).

A related study from 1989 suggested that psychosocial treatment may have a beneficial effect for woman who are being treated for metastatic disease (Spiegel, et. al., 1989). This study addresses an entirely different issue, namely, the importance of coping skills while undergoing cancer treatment. This study has no bearing on the case presented to us, as the treatment of a person who has metastatic disease is not relevant to the situation of Ms.Diveglia who has no evidence of breast cancer at this time.

Finally, there is evidence that stress induces changes in some measures of immune system function (Anderson et. al, 1998). While this study is well designed to test the hypothesis that psychological stress may have an impact on certain measures of immune system function, it contains no evidence that stress leads to an increased risk of recurrence in breast cancer patients. The relationship between the immune system and cancer is complex and the subject of ongoing research. As the authors point out, additional studies are needed to determine the possible health consequences of the effects the reported.

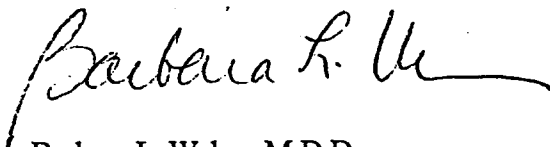
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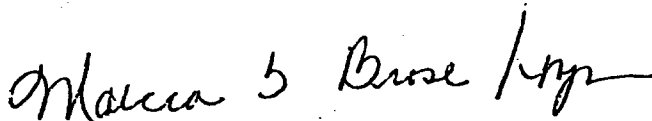
While there is a large field of research aimed at uncovering the link between psychological stress, the immune system and cancer, there is simply not enough consistent evidence on which to base practice recommendations. This position is generally accepted in the oncologic community and is supported by the National Cancer Institute (9).

In summary, it is our opinion within a reasonable degree of medical certainty, that there is no contraindication for Ms. Diveglia to return to work as a trial lawyer now that she has completed her breast cancer treatment. If she were to have a recurrence, which we hope she will not, we believe that this would be due to the underlying nature of her disease and inherent risk for recurrence, not due to working as a trial lawyer, as may women with breast cancer certainly do. Please do not hesitate to contact us if we can be of further assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barbara L. Weber".

Barbara L. Weber, M.D.D.

A handwritten signature in cursive script, appearing to read "Marcia S. Brose".

Marcia S. Brose, M.D., Ph.D



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June 18, 2001

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RE:Diveglia vs. Northwestern Mutual Insurance Co.

Dear Mr. Wolgemuth:

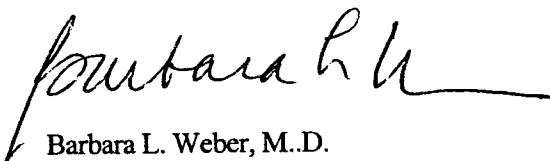
We received the report you sent in the matter of Diveglia vs Northwestern Mutual Insurance Company. Specifically, we received a copy of a study from 1998 entitled "Correlation of stress factors with sustained depression of natural killer cell activity and predicted prognosis in patients with breast cancer" (Levy et. al, 1998). We are writing to convey to you our professional opinion regarding the significance and relevance of this study to the case referenced above.

The paper from Levy et. al., 1998 is a study of the effect of psychosocial stress on immune system function as measured by natural killer (NK) cell activity. It is a very similar study to one which we reviewed in our previous correspondence by Anderson et. al (1998) suggesting that stress induces changes in natural killer (NK) cell activity. While both studies test the hypothesis that levels of psychological stress may correlate with measures of immune system function, neither study contains evidence that stress leads to an increased risk of recurrence in breast cancer patients. In addition, in the Levy study the conclusions drawn concerning the significance of psychosocial factors are based on numbers that are not statistically significant. This means that the results were not strong enough to eliminate the possibility that they could occur by chance alone. It is also important to note that the study by Levy et. al. (1998) show that the activity of the natural killer cells is correlated to the amount of lymph nodes affected by cancer which is a known prognostic marker for risk of breast cancer recurrence unrelated to psychosocial factors.

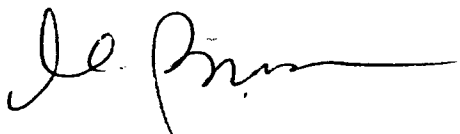
In summary, it remains our strong opinion, that there is no medical contraindication for Ms. Diveglia to return to work as a trial lawyer now that she has completed her breast cancer treatment. We wish to reiterate that this position has been recently supported by the National Cancer Institute (3) following a review of all of the evidence available at this time. Please do not hesitate to contact us if we can be of further assistance.

June 18, 2001

Sincerely,

A handwritten signature in black ink, appearing to read 'Barbara L. Weber', with a long horizontal flourish extending to the right.

Barbara L. Weber, M.D.

A handwritten signature in black ink, appearing to read 'Marcia S. Brose', with a long horizontal flourish extending to the right.

Marcia S. Brose, M.D., Ph.D

References:

1. Levy, S. Herberman, R., Lippman, M. and d'Angelo, T. Correlation of stress factors with sustained depression of natural killer cell activity and predicted prognosis in patients with breast cancer. JCO (1987) 5:348-353.
2. Anderson, B., Farrar, W., Golden-Kreutz, D., Kutz, L., MacCallum, R., Courtney, M., and Glaser, R. Stress and the immune response after surgical treatment for regional breast cancer. JNCI (1998) 90: 30-36.
3. Psychological Stress and Cancer. CancerNet from the National Cancer Institute. [Http://cancernet.nci.gov](http://cancernet.nci.gov).